

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A clamping device in which at least ~~one of a pair of clamping arms, i.e., at least~~ a first clamping arm is driven and rotated to clamp a workpiece between ~~the other clamping arm, i.e.,~~ a second clamping arm and the first clamping arm, the device comprising:

an arm rotary shaft rotatably supported on a clamp body and mounted with the first clamping arm;

a clamp arm driving mechanism including a worm wheel mounted to the arm rotary shaft, a worm engaged with the worm wheel, and a first driving source for driving the worm;

a junction frame supporting the worm and the first driving source ~~and disposed to be able to turn~~ for turning around the arm rotary shaft independently of the arm rotary shaft;

a clamping force applying mechanism for applying a rotating force in a direction opposite to a reaction force in clamping to the junction frame to thereby generate a rotating force in a clamping direction in the arm rotary shaft through the worm and the worm wheel engaged with each other to thereby apply a clamping force to the first clamping arm; and

a sensor for outputting a signal when the sensor detects that the first clamping arm has come in contact with the workpiece to stop the first driving source and to cause the clamping force applying mechanism to operate.

Claim 2 (Currently Amended): A clamping device according to claim 1, wherein the clamping force applying mechanism ~~includes~~ comprises a clamp spring for generating a rotating force in the junction frame by action of a spring force and a second driving source for controlling the clamping spring and the clamping spring is displaced by the second

driving source to a position where the spring force acts on the junction frame and to a position where the spring force does not act on the junction frame.

Claim 3 (Currently Amended): A clamping device according to claim 2, wherein the clamping force applying mechanism further ~~includes~~ comprises a transmitting shaft for moving forward and backward with respect to the junction frame and the transmitting shaft is moved forward by the clamping spring to apply the spring force to the junction frame in clamping and is moved backward by ~~the~~ a second driving source to displace the clamping spring to a non-actuated position in non-clamping.

Claim 4 (Currently Amended): A clamping device according to claim 3, wherein ~~the~~ a tip end of the transmitting shaft has a shaft head portion, the clamp body includes a spring seat clamping spring ~~is formed of~~ comprising a plurality of stacked disc springs, the transmitting shaft passes through a center of the stack of disc springs, ~~[[one]]~~ a first end of the stack of disc springs is in contact with ~~[[a]]~~ said spring seat on the clamp body, and ~~the other~~ a second end of the stack of disc springs is in contact with a shaft head portion at a tip end of the transmitting shaft.

Claim 5 (Currently Amended): A clamping device according to claim 4, wherein a ~~[[“]]flexure-spring force[[”]]~~ characteristic curve of the disc spring has a region in which the spring force is substantially constant with respect to flexure variation and the spring force in the region is applied to the junction frame.

Claim 6 (Currently Amended): A clamping device according to claim 3, wherein ~~[[a]]~~ said second driving source ~~includes~~ comprises a solenoid for generating an electromagnetic

attracting force by energizing a coil and a plunger ~~[[to be]]~~ for being attracted to the solenoid and wherein a base end portion of the transmitting shaft is connected to the plunger.

Claim 7 (Currently Amended): A clamping device according to claim 4, wherein ~~[[a]]~~ said second driving source includes a solenoid for generating an electromagnetic attracting force by energizing a coil and a plunger ~~[[to be]]~~ for being attracted to the solenoid and wherein a base end portion of the transmitting shaft is connected to the plunger.

Claim 8 (Currently Amended): A clamping device according to claim 5, wherein ~~[[a]]~~ said second driving source ~~includes~~ comprises a solenoid for generating an electromagnetic attracting force by energizing a coil and a plunger ~~[[to be]]~~ for being attracted to the solenoid and wherein a base end portion of the transmitting shaft is connected to the plunger.

Claim 9 (Currently Amended): A clamping device according to claim 1, which comprises a return spring wherein the junction frame is elastically pushed by ~~[[a]]~~ said return spring in a direction against a reaction force in clamping and the sensor is mounted ~~in a position~~ on the clamp body ~~[[and]]~~ facing the junction frame and detects ~~[[that]]~~ when the junction frame has been displaced by action of the reaction force in clamping.

Claim 10 (Currently Amended): A clamping device according to claim 2, which comprises a return spring wherein the junction frame is elastically pushed by ~~[[a]]~~ said return spring in a direction against a reaction force in clamping and the sensor is mounted in a position on the clamp body and facing the junction frame and detects ~~[[that]]~~ when the junction frame has been displaced by action of the reaction force in clamping.

Claim 11 (Currently Amended): A clamping device according to claim 3, which comprises a return spring wherein the junction frame is elastically pushed by [[a]] said return spring in a direction against a reaction force in clamping and the sensor is mounted in a position on the clamp body and facing the junction frame and detects [[that]] when the junction frame has been displaced by action of the reaction force in clamping.

Claim 12 (Currently Amended): A clamping device according to claim 4, which comprises a return spring wherein the junction frame is elastically pushed by [[a]] said return spring in a direction against a reaction force in clamping and the sensor is mounted in a position on the clamp body and facing the junction frame and detects [[that]] when the junction frame has been displaced by action of the reaction force in clamping.